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ABSTRACT

A large majority of the world's people are denied access to learning. The link between technical and vocational education (TVE) and individual and workplace economic productivity is well documented. Many countries are experiencing combinations of increasing populations of young people and high unemployment rates. Existing traditions of training and available human and financial resources provide little hope of providing access to TVE to the large numbers of people who need it worldwide. Change is essential to meeting the demands of enterprises that require a skilled workforce and people in need of TVE so that they can become economically productive. Challenges facing those seeking to improve access to TVE include the following: (1) development of alternative methodologies (combining the best of distance education with the best of TVE, developing learning materials appropriate to students' gender and level of schooling, resolving issues related to intellectual property rights and copyrights, and using appropriate technology); (2) quality assurance (improving the credibility of TVE awards and of assessments of practical skills and making qualifications flexible and mobile); (3) development of appropriate policy and strategy; (4) reorienting educational institutions, teachers, and teacher unions; and (5) developing partnerships between and among trainers and enterprises, credential-granting agencies, the labor movement, and other trainers across the globe. (MN)

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Commission I

Improving Systems Providing Education and Training Throughout Life

Flexible Access to Technical and Vocational Education throughout life

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Background

1. **Lack of Access to Education:** We deny access to learning for a large majority of the people of the world. We do not provide basic primary education for all children. Despite our great advances, there are at least 900 million illiterates. We daily transmit huge amounts of information around the world at the press of a key on our computers but some 500 million people have not yet made their first telephone call. Many countries are struggling to provide basic services in unstable political environments. We do not provide a postal service to many rural communities let alone broadcast radio or television. We isolate rural populations by investing our educational infrastructure in major urban centres.

2. **TVE and Productivity:** The link between technical and vocational education and economic productivity of the individual and the work place is well documented. The most productive countries are those that have provided the greatest investment in training the work force. The importance of TVE in enabling people to gain access to employment or to self-employment and participate in society through their economic activity is clear. Unemployment is at the root of most of the destructive forces in our societies. Access to TVE is one tool that must be used to address this problem.

3. **The Huge Immediate Demand:** Many countries are experiencing combinations of increasing populations of young people and high unemployment rates. The proportion of young people less than 15 years is as high as 42% in some countries. Unemployment and particularly youth unemployment is as high as 45% and probably higher. In one country, 88% of rural youth were classified as working in subsistent agriculture. Furthermore, the drift of young people from rural to urban centres causes a range of very difficult problems from growth of fringe settlements to unemployment and crime. Political instability, natural disasters, and a history of neglect, total destruction of infrastructure and geographical barriers complicate this picture.

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4. **Inability of the Current System:** The difficulty of providing access to training to so many people using the present traditions of training and with such limited resources - both financial and human - in the very short time frame does not present much hope. It is not possible to build the institutions to provide the education and training and to train the teachers and instructors, even if the resources were available. The only hope of tackling these problems is to change the way we do business. We must look for better ways of training the workforce.

5. **Change is Essential:** In order to meet the demands of enterprises who require a skilled workforce and of the people who require training so that they can become economically productive, countries must increase access to Technical and Vocational Education. Countries must adopt more innovative approaches. They must use methodologies and utilise appropriate information and communication technologies and infrastructure that will enable a much wider access to vocational education and training.

The Challenges

1. **Alternative Methodologies**

In thinking about flexible methodologies which will increase access to Technical and Vocational Education, it is important to go beyond the traditional face to face and the traditional distance education models. Models must be developed which combine the best of distance education and the best of TVE in order to provide the most flexible access. They must break the fixed time and place strangle hold but still support the greatest amount of interaction between people involved in the learning process as possible.

- **Develop Learning Materials that are Appropriate**: Materials developed to provide increased access to students must be appropriate for the students. This requires a consideration of issues such as gender - how do we make this material accessible to women and girls. How literate are the students? What level of schooling have they received? Have they been employed, or unemployed and for how long? Are they refugees? Are they currently employed and require re-skilling - a more important consideration as lifelong learning becomes more important. What access do they have to a place to study? Can they study at home?

- **Intellectual Property Rights and Copyrights:** One of the major challenges facing developers of learning materials is ownership of the rights of the materials and of the ideas. This issue has been debated in other sectors but it is only recently becoming an agenda item for TVET. It is can be a difficulty for print based materials but becomes increasingly complex when learning materials are provided on - line or part of multi-media packages.

- **Use Appropriate Technology:** Learning materials can be developed in print form. In areas with no access to technology, this may be the only suitable medium. It can provide the basis for study alone, study in-groups through study centres or may provide a base for classroom teaching. Print can be enhanced by the use of audio or videotape materials or stand alone computers using CD Rom packages. The latter can simulate a high level of interactivity. At the highest level of technology use of combinations of computers, phone lines, modems, video conferencing can provide high levels of interactivity and simulated learning.

  Despite the difficulties faced in many parts of the world with lack of ICT, videos and computer offer enormous potential for simulating the work environment both visually - through video and interactively through some form of Computer Based Learning system. It is out of the question for Governments to provide the range and level of equipment to meet the training needs of industry. However, it can be cost effective to provide a high level of training using high quality learning materials and then with the co-operation of industry to provide practical opportunities for training.

Case Study - India
Need for Skilled Training in the Leather Industry

The Government of India identified the need to upgrade skills in tannery workers to propel the Indian Leather industry into the 21st Century. The formal education system was unable to meet this need because: the target group were in the work force, the numbers to be trained were very large (1.4 million), the areas to be trained were not covered by formal systems, learners were distributed geographically through various tanneries in the country, each tannery had needs specific to local requirements, educational background of learners varied drastically from graduate to illiterate and tanneries find it difficult to spare workers for training.

The Indira Gandhi National Open University developed a course which was competency based, was work place based and used open learning and distance education methodologies. Strong partnerships were established between the experts in open and materials and experts in the leather industry to develop and implement the program. In order to cater for the range of varied educational backgrounds including range of languages, the entire course was produced in both print and on audio tape.

The delivery system provided support through work demonstration based training at the worker's tannery, supplementary support through study centres located either in the tannery general guidance and assistance through partnering institutes located in the community.

The first pilot was due to finish in March 99. Feedback suggests that workers were showing strong motivation to pursue the training.

This case study provides a model of how flexible delivery meeting training needs of enterprises against unfavourable odds. The model demonstrates the importance of a strong culture of partnerships involving government, training institutions and enterprises

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2. **Quality Assurance**

- **The Credibility of TVE Awards:** One of the battles that many have been fighting over the past too many years is to gain acceptance for the credibility of Technical and Vocational Education awards. For too long, qualifications gained in TVE Institutions have been regarded as second rate. The people who develop policy and allocate funds must be convinced that investment in TVE is fundamental to the economic development of a nation and that qualifications awarded are credible. The enterprises that employ the students must be convinced that both specific job skills and broad generic skills these students have learned will improve the productivity of their enterprises. The parents of the potential students must be convinced that their children will gain useful employment or become gainfully self-employed with the skills, which are learned. The staff members who are involved in the training and the trainees themselves must be confident that their knowledge and skills and their ability to teach them are relevant to the needs of industry and commerce. All of these groups must be convinced that students who acquire their skills through some form of open and flexible learning are equal, or of a better standing, than those gained through more traditional methods.

- **Credibility of Assessment of Practical Skills:** A major challenge for quality assurance and flexible delivery is the credibility of assessment of practical skills. In many areas, practical skills cannot be learnt in isolation. In order for students to have access to equipment and materials, it will be necessary to work in co-operation with the appropriate enterprises. In some countries industry accepts a responsibility for participating in the training of its workforce through various apprenticeship and traineeship initiatives.

- **Make Qualifications Flexible and Mobile:** With at least 125 million people living outside of their countries of origin training systems must not only be flexible in their delivery, they must be global in their vision and provide a **skills passport that will support labour mobility**. The skills passport would mean that qualifications obtained in one country would be accepted in another. This should also enable the mobility of teachers.

  It should enable people to have an award granted for a package of results from different institutions studied in a variety of modes in possibly different countries. This can equally apply to students who have not changed countries, but have completed a package of courses that they were able to access from their home countries.

3. **Develop Appropriate Policy and Strategy**

- An effective TVE system will only result from clear Government policy and strategic planning. Unless Governments establish a framework that establishes labour market training as a key policy goal and enables flexible and open delivery, efforts to improve the provision of TVE will be futile. This must be the first step.

4. **Re-orient Teaching Organisations and Teachers**

- **Institutions:** Existing institutions lack appropriate staff and support structures to enable the to provide flexible access to TVE. Institutions need re-orientation to enable them to deliver training where and when it is required by the individual or by the enterprise.

- **Teachers:** The intractability of some staff has been and obstacle for institutions wishing to adopt a more flexible approach to delivery of TVE. Staff need to embark on professional development programs to equip them with the skills to operate in a more flexible mode. On the other hand, the enthusiasts, the change agents and the entrepreneurs must be nurtured and rewarded to encourage them to keep pushing at the boundaries.

- **Teacher Unions:** Teacher Unions who are involved in negotiating the employment conditions of teaching staff have been suspicious that developments leading towards flexible learning will remove jobs from their members. There have been a number of instances where intervention by a Teacher Union prevented the development of open and flexible delivery methodologies.

Case Study
Instructors/Teachers Unions

One institution had developed a number of courses for delivery via the Internet. The Instructors Union was concerned that this use of technology would be adopted extensively and affect the working conditions of staff, resulting in a loss of jobs. The courses were never used. By the time that a compromise position had been reached, extensive revisions would have been needed to the original material.

Many North American employment agreements with teachers in tertiary institutions now contain a clause which inhibits to some degree, the move into open and flexible learning using ICTs.

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5. **Develop Partnerships**

The implementation of open and flexible learning will require a culture of partnerships.

- **Trainers and Enterprises:** The trainers and the enterprises must see themselves as partners. Each must contribute to the work of the other in a positive way. The enterprises must assist in the development of the curriculum and the learning materials; the trainers must see themselves as assisting the enterprises become more productive. Enterprises must see themselves as partners in the process of training the students.

- **Trainers and Credential Granting Agencies**: Trainers and credential granting agencies must work together to ensure the credibility of the qualifications that are awarded.

- **Trainers and the Labour Movement:** The labour movements must work in partnership with the trainers, representing the needs of their members and encouraging and supporting members to participate in various training programs.

- **Trainers Globally:** Trainers must form partnerships with other trainers around the world. They need to share ideas, problems and solutions. They also need to co-operate in the development of learning materials. Many of the countries do not have the time to develop their own materials. They must adapt existing materials so they need to work in partnership with other trainers in other parts of the world. Partnerships should explore creative ways of cost sharing.

Case Study
Partnerships

Coles Supermarkets, a major chain in Australia has contracted Deakin University to oversee, commission and provide nationally recognised vocational and university level education from shelf stacking to MBAs. Coles Supermarkets employs over 55,000 staff. (The Australian, 13 April 99)

Deakin established an umbrella organisation, the Coles Institute to manage, deliver and broker the education and training. Coles Institute would be an arms length operation from the University, independent of the federally funded institution and its structures, staff contracts and other constraints but able to capitalise on the high credibility of qualifications which are awarded by the University.

This exemplifies the opportunities that exist for developing partnerships with industry.

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In summary, the need to improve access to TVE throughout the world is acute. The economic imperative coupled with the denial of access to T VE in most of the world has serious implications for social dislocation. The social problems that will result from failure to address this matter are frightening. Governments must develop policy and strategic plans to provide a framework for labour market training and which enables alternative methodologies that result in open and flexible delivery of TVE. Programs supported by flexible access must have a high level of credibility with enterprises, parents, students and instructors. Programs must take account of the variety of needs of the different student groups and consider the impact of life-long learning.